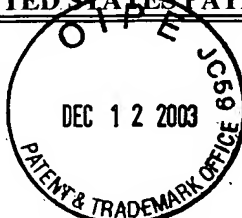


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	SCHMIDT et al.	Group Art Unit:	1764
Serial No.:	10/620,183	Examiner:	Unknown
Filed:	July 15, 2003	Docket No.:	110.02090101
Title:	CATALYTIC PARTIAL OXIDATION OF HYDROCARBONS		



Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

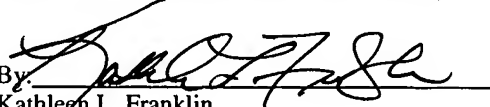
- ☒ An itemized return postcard.
- ☐ A Petition for Extension of Time for __ month(s) and a check in the amount of \$__ for the required fee.
- ☒ An Information Disclosure Statement (2 pgs); copy of 1 application; 1449 forms (6 pgs); and copies of 86 documents cited on the 1449 forms.
- ☐ A check in the amount of \$__, for __.
- ☐ A certified copy of a __ application, Serial No. __, filed ____, the right of priority of which is claimed under 35 U.S.C. §119.
- ☐ Other:
- ☐ Amendment ☐ No Additional fee is required. ☐ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$18 =	
Independent Claims				x \$84 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$280 Here →					
Total Additional Claim Fees Required					

Please consider this a **PETITION FOR EXTENSION OF TIME** for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

CERTIFICATE UNDER 37 C.F.R. §1.8: The undersigned hereby certifies that this Transmittal Letter and the paper(s), as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of December, 2003.

MUETING, RAASCH & GEBHARDT, P.A.
Customer Number: 26813

By: 
Kathleen L. Franklin
Reg. No.: 47,574
Direct Dial: 612-305-1873
Facsimile: 612-305-1228

(LARGE ENTITY TRANSMITTAL UNDER RULE 1.8)



PATENT
Docket No. 110.02090101

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	SCHMIDT et al.)	Group Art Unit:	1764
)		
Serial No.:	10/620,183)	Examiner:	Unknown
Confirmation No.:	8654)		
)		
Filed:	July 15, 2003)		
)		
For:	<u>CATALYTIC PARTIAL OXIDATION OF HYDROCARBONS</u>			

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Per M.P.E.P. § 609, the information cited in the present Information Disclosure Statement shall not be construed to be an admission that the information is, or is considered to be, material to patentability. Consideration of each of the documents listed on the attached 1449 forms is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicants further request that a copy of the 1449 forms, marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Applicants also wish to bring the Examiner's attention to the following pending U.S. Application, as well as any documents and any provisional U.S. patent applications referenced therein. A copy of each of the below-listed pending U.S. Patent Application is provided herewith.

Information Disclosure Statement

Applicants: SCHMIDT et al.

Serial No.: 10/620,183

Confirmation No.: 8654

Filed: July 15, 2003

For: CATALYTIC PARTIAL OXIDATION OF HYDROCARBONS



Page 2 of 2

List of Pending Non-Published U.S. Patent Applications

Applicant(s)	Application Number	Filing Date
Deluga et al.	10/676,324	09/30/03

It is believed that no fee is due, as this Information Disclosure Statement is filed prior to the receipt of any Action on the merits. However, in the event a fee is due, please charge any fee or credit any overpayment to Account No. 13-4895.

The Examiner is invited to contact Applicants' Representatives at the below-listed telephone number, if they can be of any assistance during prosecution of the present application.

CERTIFICATE UNDER 37 C.F.R. 1.8:

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of December, 2003.


Kathleen L. Franklin

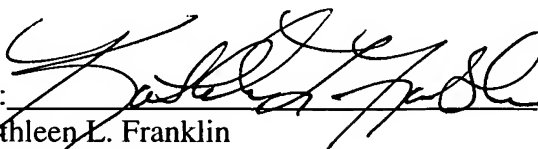
Respectfully submitted for


SCHMIDT et al.

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10 December 2003
Date

AMM/KLF/skd

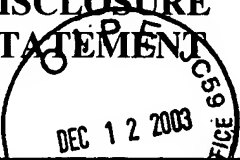
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INFORMATION DISCLOSURE STATEMENT 	Atty. Docket No.: 110.02090101	Serial No.: 10/620,183
	Applicants: SCHMIDT et al.	Confirmation No.: 8654
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	Information Disclosure Statement mailed: 12/10/03	

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	3,900,646	08/19/75	Clyde			
	3,957,685	05/18/76	Heide et al.			
	3,998,758	12/21/76	Clyde			
	4,088,607	05/09/78	Weidenbach et al.			
	4,251,239	02/17/81	Clyde et al.			
	4,253,302	03/03/81	Asano et al.			
	4,308,233	12/29/81	Narumiya et al.			
	4,568,595	02/04/86	Morris			
	4,810,685	03/07/89	Twigg et al.			
	4,863,712	09/05/89	Twigg et al.			
	4,940,826	07/10/90	Font Freide et al.			
	5,105,052	04/14/92	Font Freide et al.			
	5,221,464	06/22/93	Durante et al.			
	5,382,741	01/17/95	Astbury et al.			
	5,500,149	03/19/96	Green et al.			
	5,593,935	01/14/97	Golunski et al.			
	5,597,771	01/28/97	Hu et al.			
	5,639,929	06/17/97	Bharadwaj et al.			
	5,648,582	07/15/97	Schmidt et al.			
	5,654,491	08/05/97	Goetsch et al.			
	5,856,585	01/05/99	Sanfilippo et al.			
	5,905,180	05/18/99	Yokoyama et al.			
	5,980,731	11/09/99	Kao et al.			

EXAMINER	Date Considered
<p>*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	


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Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	6,072,097	06/06/00	Yokoyama et al.			
	6,083,425	07/04/00	Clawson et al.			
	6,123,913	09/26/00	Clawson et al.			
	6,126,908	10/03/00	Clawson et al.			
	6,197,717 B1	03/06/01	Alexander et al.			
	6,207,122 B1	03/27/01	Clawson et al.			
	6,221,280 B1	04/24/01	Anumakonda et al.			
	6,245,303 B1	06/12/01	Bentley et al.			
	6,254,807 B1	07/03/01	Schmidt et al.			
	6,254,839 B1	07/03/01	Clawson et al.			
	6,387,554 B1	05/14/02	Verykios			
	6,407,301 B1	06/18/02	Foley et al.			
	6,444,867 B1	09/03/02	Samsel et al.			
	6,452,061 B1	09/17/02	Schmidt et al.			
	6,605,376 B2	08/12/03	Verykios			
	US 2001/0009653 A1	07/26/01	Clawson et al.			

FOREIGN PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Country	Class	Subclass	Translation	
						Yes	No
	0576096 A2	12/29/93	EP				
	0640559 A1	03/01/95	EP				
	1,067,957	05/10/67	GB				
	FR 1,379,027	11/20/64	FR (abstract only)				
	JP 2001-080904	03/27/01	JP (English language abstract included)				

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	JP 2001-089108	04/03/01	JP (English language abstract included)				
	WO 98/08771	03/05/98	WIPO				
	WO 99/61369	12/02/99	WIPO				

OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)

Examiner Initial	Document Description
	Aupretre et al., "Le vaporeformage catalytique: Application a la production embarquee d'hydrogene a partir d'hydrocarbures ou d'alcools," <i>Ann. Chim. Sci. Mat.</i> , 2001, 26(4):93-106 (with English language abstract).
	Bodke et al., "The Effect of Ceramic Supports on Partial Oxidation of Hydrocarbons Over Noble Metal Coated Monoliths," <i>Journal of Catalysis</i> , 1998; 179:138-149.
	Bodke et al., "High Selectivities to Ethylene by Partial Oxidation of Ethane," <i>Science</i> , 1999; 285:712-715.
	Brown, "A comparative study of fuels for on-board hydrogen production for fuel-cell-powered automobiles," <i>Int. J. Hydrogen Energy</i> , 2001, 26:381-397.
	Burch et al., "Investigation of the reactions of acetaldehyde on promoted rhodium catalysts," <i>Applied Catalysis A: General</i> , 1992; 88:61-76.
	Cavallaro et al., "Ethanol steam reforming in a molten carbonate fuel cell. A preliminary kinetic investigation," <i>Int. J. Hydrogen Energy</i> , 1996; 21(6):465-469.
	Cavallaro, "Ethanol Steam Reforming on Rh/Al ₂ O ₃ Catalysts," <i>Energy & Fuels</i> , 2000, 14:1195-1199.
	Chornet et al., "Harnessing hydrogen," <i>Nature</i> , 29 Aug. 2002; 418:928-929.
	Cordi et al., "Transient oxidation of volatile organic compounds on a CuO/Al ₂ O ₃ catalyst," <i>Applied Catalysis B: Environmental</i> , 1997; 14:23-36.
	Cortright et al., "Hydrogen from catalytic reforming of biomass-derived hydrocarbons in liquid water," <i>Nature</i> , 29 Aug. 2002; 418:964-967.
	Dietz III et al., "Partial Oxidation of C ₅ and C ₆ Alkanes over Monolith Catalysts at Short Contact Times," <i>Journal of Catalysis</i> , 1998; 176:459-473.

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Examiner Initial	Document Description
	Fatsikostas et al., "Steam reforming of biomass-derived ethanol for the production of hydrogen for fuel cell applications," <i>Chem. Comm.</i> , 2001; 851-852.
	Fishtik et al., "A thermodynamic analysis of hydrogen production by steam reforming of ethanol via response reactions," <i>Int. J. Hydrogen Energy</i> , 2000; 25:31-45.
	Freni, "Rh based catalysts for indirect internal reforming ethanol applications in molten carbonate fuel cells," <i>Journal of Power Sources</i> , 2001; 94:14-19.
	Galvita et al., "Synthesis gas production by steam reforming of ethanol," <i>Applied Catalysis A: General</i> , 2001; 220:123-127.
	Goetsch et al., "Microsecond Catalytic Partial Oxidation of Alkanes," <i>Science</i> , 1996; 271:1560-1562.
	Gomez et al., "Kinetic Study of Partial Oxidation of Ethanol over VMgO Catalyst," <i>Ind. Eng. Chem. Res.</i> , 1997; 36:3468-3472.
	Henning et al., "Oxidative dehydrogenation of ethane at short contact times: species and temperature profiles within and after the catalyst," <i>Chem. Eng. Sci.</i> , 2002; 57(14):2615-2625.
	Hickman et al., "Synthesis gas formation by direct oxidation of methane over Pt monoliths," <i>Journal of Catalysis</i> , 1992; 138:267-82.
	Hickman et al., "Synthesis Gas Formation by Direct Oxidation of Methane over Rh Monoliths," <i>Catal. Lett.</i> , 1993; 17(3-4):223-237.
	Hickman et al., "Production of syngas by direct catalytic oxidation of methane," <i>Science</i> , 15 Jan. 1993; 259:343-346.
	Huff et al., "Partial Oxidation of CH ₄ , C ₂ H ₆ , and C ₃ H ₈ on Monoliths at Short Contact Times," <i>Stud. Surf. Sci. Catal.</i> , Natural Gas Conversion II, Proceedings of the Third Natural Gas Conversion Symposium, Sydney, Australia, 4-9 July 1993; 81:315-320 (1994).
	Ioannides, "Thermodynamic analysis of ethanol processors for fuel cell applications," <i>Journal of Power Sources</i> , 2001, 92:17-25.

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Examiner Initial	Document Description
	Klein et al., "Catalytic partial oxidation of methane to syngas: staged and stratified reactors with steam addition," <i>Stud. Surf. Sci. Catal.</i> , Natural Gas Conversion VI, Proceedings of the Sixth Natural Gas Conversion Symposium, Alaska, 17-22 June 2001; 136:245-250 (2001).
	Krummenacher et al., "Catalytic partial oxidation of higher hydrocarbons at millisecond contact times: decane, hexadecane, and diesel fuel," <i>Journal of Catalysis</i> , 2003;215:332-343.
	Lakshmi et al., "Synthesis, Characterization, and Activity Studies of Vanadia Supported on Zirconia and Phosphorus-Modified Zirconia," <i>Langmuir</i> , 1999; 15:3521-3528.
	Mariño et al., "Hydrogen from steam reforming of ethanol. Characterization and performance of copper-nickel supported catalysts," <i>Int. J. Hydrogen Energy</i> , 1998;23(12):1095-1101.
	Mariño et al., "Hydrogen production from steam reforming of bioethanol using Cu/Ni/K/γ-Al ₂ O ₃ catalysts. Effect of Ni," <i>Int. J. Hydrogen Energy</i> , 2001, 26:665-668.
	Mazzocchia et al., "Hydrogenation of CO over ZrO ₂ -supported Rh catalysts: kinetic aspects," <i>Journal of Molecular Catalysis</i> , 1990; 60:283-294.
	Mazzocchia et al., "Hydrogenation of CO over Rh/SiO ₂ -CeO ₂ catalysts: kinetic evidences," <i>Journal of Molecular Catalysis A: Chemical</i> , 2001; 165:219-230.
	O'Connor et al., "High yields of synthesis gas by millisecond partial oxidation of higher hydrocarbons," <i>Catal. Lett.</i> , 2000; 70:99-107.
	Otsuka et al., "The Partial Oxidation of Light Alkanes (CH ₄ , C ₂ H ₆ , C ₃ H ₈) Over B-P Mixed Oxides," <i>Stud. Surf. Sci. Catal.</i> , Natural Gas Conversion, Proceedings of the Natural Gas Conversion Symposium, Oslo, 12-17 Aug. 1990; 61:15-23 (1991).
	Pestryakov et al., "Physicochemical study of active sites of metal catalysts for alcohol partial oxidation," <i>Journal of Molecular Catalysis A: Chemical</i> , 2000; 158:325-329.
	Rampe et al., "Hydrogen generation from biogenic and fossil fuels by autothermal reforming," <i>Journal of Power Sources</i> , 2000; 86:536-541.

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Examiner Initial	Document Description
	Tamman, "Zur Rekristallisation von Metallen und Salzen," <i>Anorg. Allg. Chem.</i> , 1923; 126:119-128.
	Traxel et al., "Partial Oxidation of methanol at millisecond contact times," <i>Applied Catalysis A: General</i> , 2003; 244:129-140.
	Vasudeva et al., "Steam reforming of ethanol for hydrogen production: thermodynamic analysis," <i>Int. J. Hydrogen Energy</i> , 1996; 21(1):13-18.
	Vickers et al., "PLOT Column Considerations for the Gas Chromatographic Analysis of Ozone Precursors," <i>J&W Scientific</i> , Aug. 1998:9 pgs.
	Wang et al., "Study on the partial oxidation of ethanol to hydrogen in the presence of Ni-Fe catalyst," <i>Wuui Huaxue Xuebao (Acta Physico-Chimica Sinica)</i> , 2002, 18(5):426-431; with English language abstract and translation, 12 pgs.

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